

# Christopher Ryne Estabrook, PhD

## Curriculum Vitae

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**Address:** Department of Psychology                      University of Illinois - Chicago  
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### Education

**Ph.D. Psychology (2010)** University of Virginia

Concentration: Quantitative Psychology

Dissertation Title: *Measuring What's Changing: Redesigning Measurement Models with Derivative Transformed Data*

Advisor: John R. Nesselrode, Ph.D.

**M.A. Psychology (2007)** University of Virginia

Concentration: Quantitative Psychology

Pre-Dissertation Title: *A Monte Carlo Simulation Study Assessment of the Reliability of Within-Person Variability*

Advisor: John R. Nesselrode, Ph.D.

**B.S. Psychology (2005)** Arizona State University

Honors: *Summa Cum Laude*, Graduate of Barrett Honors College

Thesis Title: *The Effects of Scarcity and Equity in Social Dilemmas*

Advisor: Darwyn E. Linder, Ph.D.

### Academic Appointments

**2019–Present** *Visiting Assistant Professor*, Department of Psychology, University of Illinois at Chicago

**2013–2019** *Assistant Professor*, Feinberg School of Medicine, Northwestern University

Department of Medical Social Sciences (Primary Appt); Department of Psychology (Affiliated: 2013-2019); Institute for Innovations in Developmental Sciences (Affiliated: 2014-2019)

**2010–2013** *Postdoctoral Fellow*, Department of Psychiatry, Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University

**2008–2009** *Adjunct Professor*, Department of Psychology, University of Virginia

**2005–2010** *Graduate Student*, Department of Psychology, University of Virginia

## Awards & Honors

**Maury Pathfinder Prize (2009)** Department of Psychology, University of Virginia  
Award given for best pre-dissertation project (master's thesis) in 2007-2008

**Travel Award (2009)** Society of Multivariate Experimental Psychology (SMEP)  
Travel stipend to present at 2009 SMEP Conference

**Fellow (2008-2010)** LIFE Program  
Multidisciplinary consortium for research collaboration in lifespan development (Max Planck Institute for Human Development, Freie Universität Berlin, the Humboldt-Universität zu Berlin, University of Michigan, University of Virginia, & University of Zurich)

**Huskey Research Prize (2008)** Robert J. Huskey Graduate Research Exhibition,  
University of Virginia  
First Place, Social and Behavioral Science Paper Presentation

**Summa Cum Laude (2005)** Arizona State University

**Psi Chi (2004)** Arizona State University

## Professional Organizations

**Member (Past and Present):** Association for Psychological Science (APS); Behavior Genetics Association (BGA), Chicago Chapter of the American Statistical Association, Society for Research in Child Development (SRCD), American Psychological Association, Affiliate (APA), Psi Chi (Arizona State University)

## Professional Activities

### Institutional Service

**2019-present** Co-Director, Statistics and Methods Clinic, Dept of Psychology, University of Illinois, Chicago  
Co-created program for department statistical consulting for faculty and graduate students, including weekly open consulting sessions, individual meetings, and small workshops; developed system for scheduling and tracking participation.

**2017-2019** Statistical Consulting, Area of Scholarly Concentration (AOSC), Northwestern University  
Provide statistical instruction & mentorship to 27 M.D. students completing their first research projects.

**2013-2015** Faculty Lead, DevSci Data Repository, Northwestern University  
Manage needs assessment for joint effort between University developmental community and University Libraries to create repository for shared data access across Northwestern campuses.

**2013-2019** Member, DevSci Leadership Council, Northwestern University  
University-wide initiative for interdepartmental collaboration uniting lifespan development researchers.

**2013-2019** Member, Psychometric and Statistical Core, Department of Medical Social Sciences,  
Northwestern University

## Trainees

**Dissertation Committee Member:** Phillip Curtis, Elaine Thompson *Northwestern University*

**Trainee Grant Applications (Funded):** Phillip Curtis (NIH F31), Elaine Thompson (NIH F31), Sharif Badawy (NIH K23) *Northwestern University*

## Editorial & Review Responsibilities

**Journal (Editorial Board):** *Gerontology* (2016-present).

**Journal (Ad Hoc Review):** *Aging, Neuropsychology and Cognition; Applied Developmental Science; Behavior Genetics; Developmental Psychology; Gerontology; International Journal of Behavioral Development; Journal of Abnormal Psychology; Journal of Personality and Social Psychology; Personality Processes and Individual Differences; Journal of Traumatic Stress; Journal of Research in Personality; Multivariate Behavioral Research; Nicotine & Tobacco Research; Personality and Social Psychology Bulletin; PLOSone; Psychological Methods; Psychological Trauma: Theory, Research, and Practice; Quality of Life Research; Research in Human Development; Scientific Reports.*

**Grant Review:** Swiss National Centre of Competence in Research LIVES (NCCR LIVES). .

**Conference:** *Developmental Methodology* (2016): Panel Review Chair, Intra-individual Longitudinal Analysis Panel.

**Conference (Ad Hoc Review):** Society for Multivariate Experimental Psychology (Student Pre-Conference); Society for Research in Child Development.

## Teaching

### Classroom (UIC unless otherwise noted)

PSCH 343: Statistical Methods in Behavioral Science (Fall '20, Spring '20, Fall '21)

PSCH 545: Regression Analysis (Spring '21, Spring '22)

PSCH 544: Latent Variable Modeling (Fall '19, Fall '21)

PSCH 548: Mixed Effect Modeling (Spring '20, Spring '21)

PSCH 548: Multivariate Analysis (Fall '20)

PSYC 771: Quantitative Methods I (Co-Instructor of Record)  
University of Virginia, Department of Psychology (Fall '08)

### Teaching (Workshop & Seminar)

**October 2016** Instructor, *NU-PATIENT Bootcamp on CER Methods and Application*, Northwestern University

- October 2015** Instructor, *Advanced Genetic Epidemiology Statistical Workshop (AGES)*,  
Virginia Commonwealth University
- September 2014** Instructor, *NU-PATIENT Bootcamp on CER Methods and Application*,  
Northwestern University
- May 2014** Instructor, *Advanced Structural Equation Modeling With OpenMx*,  
Association for Psychological Science
- October 2012** Instructor, *Advanced Genetic Epidemiology and Statistical  
Molecular Genetics Workshop (AGESMoG)*, Virginia Commonwealth University
- Spring 2011** HGEN 691: Statistical Computing with R (Lecturer)  
School of Medicine, Virginia Commonwealth University
- October 2010** Instructor, *Advanced Genetic Epidemiology and Statistical Molecular Genetics Workshop  
(AGESMoG)*, Virginia Commonwealth University
- May 2010** Instructor, APA–Advanced Training Institute  
*Structural Equation Modeling in Longitudinal Research*, University of Virginia
- May 2010** Teaching Assistant, *Structural Equation Modeling with OpenMx*  
LIFE Academy, University of Virginia
- Jul 2009–Aug 2009** Instructor, *Professional Issues Summer Workshop Series*  
Graduate Research Council, Department of Psychology, University of Virginia
- Jun 2009** Teaching Assistant, APA–Advanced Training Institute  
*Structural Equation Modeling in Longitudinal Research*, University of Virginia
- Mar 2009** Lecturer, Lifespan Development Seminar, Department of Psychology,  
University of Virginia
- Jun 2008** Teaching Assistant, APA–Advanced Training Institute  
*Structural Equation Modeling in Longitudinal Research*, University of Virginia

## Funding Support

### Active

*Projects with variable effort over time show range of funded effort.*

- U01 HL133704 (2016–2021)** National Heart, Blood, and Lung Institute  
*Integrated analysis of autonomic biomarkers in prematurity-related ventilatory control: Determination of neurorespiratory maturation and predictors of co-morbidity risk* (PI: Debra Weese-Mayer & Aaron Hamvas).  
**Role:** PI, Sub-Award, 2016-2019 (Northwestern); 2019-present (UIC), 5-15% Effort.

**Completed (Selected)**

- R34 AT009685 (2018–2023)** National Center for Complementary and Integrative Health  
*Learning Affective Regulation to Keep Stress and Pain Under control.* (PI: Judith T. Moskowitz, PhD).  
**Role:** Co-I, 2018–2019 (Northwestern University), 5-20% Effort.
- R01 DC014709 (2016-2020)** National Institute on Deafness and Other Communication Disorders  
*The Role of Parent Phenotype in Parent-Mediated Language Interventions for Autism* (PI: Megan Roberts, PhD).  
**Role:** Co-I, 2015–2019 (Northwestern University), 10% Effort.
- R01 NS102500 (2018–2023)** National Institutes of Health  
*Subcortical auditory processing in sports-related concussions and contact/collision sports* (PI: Kraus).  
**Role:** Co-I, 2018–2019 (Northwestern University), 10% Effort.  
**Contribution:** Oversee longitudinal analyses of event-contingent design.
- U01 DC017135 (2018–2023)** National Institute on Deafness and Communication Disorders  
*Maximizing outcomes for preschoolers with developmental language disorders: testing the effects of a sequentially targeted naturalistic intervention* (PI: Kaiser).  
**Role:** Co-I, 2018–2019 (Northwestern University), 10-40% Effort.  
**Contribution:** Oversee longitudinal analyses of autism RCT across U01 sites.
- R01 MH107652 (2016–2021)** National Institute on Mental Health  
*Generating an Earlier Science of When to Worry: A Neurodevelopmental, Transactional Approach to Characterizing Irritability Patterns Beginning in Infancy* (PI: Lauren S Wakschlag, PhD).  
**Role:** Co-I, 2016–2019 (Northwestern University), 10-20% Effort.
- U02C-CA186878-01 (2014-2018)** National Cancer Institute  
*The National Person-Centered Assessment Resource (PCAR)* (PI: David Cella, PhD)  
**Role:** Co-I, 2014–2019 (Northwestern University), 10-20% Effort.
- U24 OD023319 (2016–2019)** National Institutes of Health  
*ECHO PRO Research Resource: A Developmentally based Measurement Science Framework for Assessing Environmental Exposure and Child Health* (PIs: Gershon/Cella).  
**Role:** Co-I, 2017–2019 (Northwestern University), 20% Effort.
- P30 AR072579 (2016–2019)** National Institutes of Health  
*Core Center for Clinical Research at Northwestern University* (PI: Sharma).  
**Role:** Co-I, 2017–2019 2-10% Effort.
- R01 MH113390 (2018–2023)** NIMH  
*Mapping Dimensional Aspects of Biobehavioral Threat Reactivity in Young, Violence-Exposed Children: Linkages to Fear, Distress, and Disruptive Behavior* (PIs: Grasso/Briggs-Gowan).  
**Role:** Co-I, 2018–2019 (Northwestern University), 10% Effort.
- U01 MH082830-06 (2008–2019)** National Institute on Mental Health  
*Dimensions of Early Temper Loss and Low Concern: Clinical Utility and Mechanisms (MAPS Study Renewal)* (PI: Lauren S. Wakschlag, PhD).  
**Role:** Co-I, 2014–present (Northwestern University), 10% Effort.

- R01 AG18436 (2011–2016)** National Institute on Aging, National Institute on Mental Health  
*Personality and Well-Being Trajectories in Adulthood* (PI: Daniel K. Mroczek, PhD).  
**Role:** Co-I, 2013–present (Northwestern University), 5-30% Effort.
- P01 AG31726 (2012–2017)** National Institute on Aging  
*Integrative Analysis of Longitudinal Studies of Aging* (PI: Scott Hofer).  
**Role:** Co-I, Northwestern Sub-Award, 2013–present (Northwestern University), 5-15% Effort.
- R03 DC012639 (2012-2016)** National Institute on Deafness and Other Communication Disorders  
*Pre-Implantation Communication Treatment for Children with Hearing Loss* (PI: Megan Roberts, PhD).  
**Role:** Co-I, 2015–present (Northwestern University), 10% Effort.
- R01 DC013274 (2014-2019)** National Institute on Deafness and Other Communication Disorders  
*Interactive Specialization in Language Impairment* (PI: James Booth, PhD).  
**Role:** PI, Northwestern Sub-Award, 2014–2016 (Northwestern University), 5% Effort.
- U54 CA153511 (2010-2016)** National Cancer Institute  
*Reded En Accion: The National Hispanic/Latino Cancer Network Research Network*  
(PI: Frank Penedo, PhD)  
**Role:** Co-I, 2015–present (Northwestern University), 10% Effort.
- HHSN2752012000071** National Institutes of Health  
*National Children’s Study: Vanguard Study & Health Measurement Network* (PI: Richard Gershon, Ph.D.).  
**Role:** Co-I, 2015 (Northwestern University), 10% Effort.
- R01 DA023653-01A-2 (2009–2014)** National Institute on Drug Abuse  
*Prenatal smoking and the substrates of disruptive behavior in early life* (PIs: Lauren S. Wakschlag, PhD & Kimberly A. Espy, PhD).  
**Role:** Co-I, 2013–2015 (Northwestern University), 10% Effort.
- U01 DA036939-01 (2014-2019)** National Institute on Drug Abuse  
*Multilevel influences on HIV and substance use in a YMSM cohort* (PI: Brian Mustanski, PhD).  
**Role:** Co-I, 2014 (Northwestern University), 10% Effort.
- R25 DA026119 (2010–2013)** National Institute on Drug Abuse  
*Research Education in Statistical Genetics of Substance Abuse* (PI: Michael C. Neale, PhD.)  
**Role:** Post-Doctoral Fellow, 2010–2013 (Virginia Commonwealth University).
- T32 AG20500 (2002–2014)** National Institute on Aging  
*Training in Quantitative Modeling in Aging Research* (PI: John R. Nesselroade, PhD).  
**Role:** Pre-Doctoral Fellow, 2005–2010 (University of Virginia).

## Publications

### Peer-Reviewed Journal Articles

*Student Co-Authors Italicized*

- Luo, J., Zhang, B., **Estabrook, R.**, Graham, E. K., Driver, C. C., Schalet, B. D., Turiano, N. A., Spiro, A., & Mroczek, D. K. (accepted). Personality and health: Disentangling their between-person and within-person relationship in three longitudinal studies. *Journal of Personality and Social Psychology*.
- Fitzgerald, C., **Estabrook, R.**, Martin, D., Brandmaier, A. M., & Von Oertzen, T. (accepted). Correcting the Root Mean Squared Error of Approximation under Missingness. Manuscript accepted at *Methodology*.
- Malakooti, M., Pendergast, T. R., Horowitz, R., Hummel, J., **Estabrook, R.**, & Weese-Mayer, D. E. (accepted). Environmental Temperature Extremes: Feasibility Study of Effect on Pediatric Health. Manuscript accepted at *GeoHealth*.
- Thompson, E.*, **Estabrook, R.**, Krizman, J., Smith, S., Huang, S., White-Schwoch, T., Nicol, T., & Kraus, N. (2021). Auditory neurophysiological development of children ages 3-8: a growth curve modeling approach. *Clinical Neurophysiology*.
- Penedo, F. J., Fox, R. S., Walsh, E. A., Yanez, B., Miller, G. E., Oswald, L. B., **Estabrook, R.**, ... & Moreno, P. I. (2021). Effects of web-based cognitive behavioral stress management and health promotion interventions on neuroendocrine and inflammatory markers in men with advanced prostate cancer: A randomized controlled trial. *Brain, Behavior, and Immunity*, 95, 168-177.
- Aguayo, L., Hernandez, I. G., Yasui, M., **Estabrook, R.**, Anderson, E. L., Davis, M. M., ... & Heard-Garris, N. (2021). Cultural socialization in childhood: Analysis of parent-child conversations with a direct observation measure. *Journal of Family Psychology*, 35(2), 138.
- Funkhouser, C. J., Correa, K. A., Letkiewicz, A. M., Cozza, E., Estabrook, R., & Shankman, S. A. (in press). Evaluating the criterion validity of hierarchical psychopathology dimensions across models: Familial aggregation and associations with Research Domain Criteria (RDoC) (sub)constructs. *Journal of Abnormal Psychology*.
- Penedo, F.J., Fox, R.S., Oswald, L.B. Moreno, P. I., Boland, C. L., **Estabrook, R.**, McGinty, H. L., Mohr, D. C., Begale, M. J., Dahn, J. R., Flury, S. C., Perry, K. T., Kundu, S. D., & Yanez, B. (2020). Technology-Based Psychosocial Intervention to Improve Quality of Life and Reduce Symptom Burden in Men with Advanced Prostate Cancer: Results from a Randomized Controlled Trial. *Int.J. Behav. Med.* 27, 490–505. <https://doi.org/10.1007/s12529-019-09839-7>
- Estabrook, R.** (2020). Gerontology and the replication crisis. *Gerontology*, 63 (3), 304-308.
- Greene, C. A., McCarthy, K. J., *Estabrook, R.*, Wakschlag, L. S., & Briggs-Gowan, M. J. (2020). Responsive Parenting Buffers the Impact of Maternal PTSD on Young Children. *Parenting, science and practice*, 20(2), 141–165. <https://doi.org/10.1080/15295192.2019.1707623>
- Graham, E. K., Weston, S. J., Gerstorf, D., Yoneda, T. B., Booth, T., Beam, C. R., **Estabrook, R.** ... & Mroczek, D. M. (2020). Trajectories of Big Five Personality Traits: A Coordinated Analysis of 16 Longitudinal Samples. *European Journal of Personality*, 34 (3), 301-321.

- Heard-Garris, N., Davis, M. M., **Estabrook, R.**, Burns, J. L., Briggs-Gowan, M., Allen, N.m Carnethon, M., Aguayo, L., Wakschlag, L. S., & Penedo, F. (2020). Adverse childhood experiences and biomarkers of inflammation in a diverse cohort of early school-aged children. *Brain, Behavior, & Immunity-Health*,
- Manning, B., Roberts, M. Y., **Estabrook, R.**, Petitclerc, A., Burns, J., Wakschlag, L. S., Norton, E. (2019). What's a toddler to do? Exploring the links between expressive language and temper tantrums in a large population-based sample. *Journal of Applied Developmental Psychology*, 65.
- Thompson, E.*, Krizman, J., White-Schwoch, T., Nicol, T., **Estabrook, R.**, & Kraus, N. (2019). Neurophysiological, linguistic, and cognitive predictors of children's ability to perceive speech in noise. *Developmental Cognitive Neuroscience*, 39.
- Wakschlag, L. S., Krogh-Jespersen, S., **Estabrook, R.**, Hlutkowsky, C., Anderson, E., Burns, J. L., Briggs-Gowan, M., Petitclerc, A. & Perlman, S. B. (2020). The Early Childhood Irritability - Related Impairment Interview (E-CRI): A Novel Method for Assessing Clinical Significance of Young Children's Irritability within Developmental Context. *Journal of Translational Behavioral Medicine*, 51(2):294-309.
- Luby, J., Allen, N., **Estabrook, R.**, Pine, D., Rogers, C., Krogh-Jesperson, S., Norton, E. & Wakschlag, L. S. (2019). Mapping infant neurodevelopmental precursors of mental disorders: How synthetic cohorts & computational approaches can be used to enhance prediction of early childhood psychopathology. *Behavior Research and Therapy*.
- Deveney, C.M., Briggs-Gowan, M., Pagliaccio, D., **Estabrook, R.**, Zobel, E., Burns, J., Norton, E.S., Pine, D.S., Leibenluft, E., Brotman, M., & Wakschlag, L.S. (2019). Temporally sensitive neural measures of inhibition in preschool children with varying irritability symptoms. *Developmental Psychobiology*, 61 (2), 216-227.
- Shechter, J., Roy, A., Naureckas, S., **Estabrook, R.**, & Mohanty, N. (2019). Variables Associated with Emergency Department Utilization by Pediatric Patients with Asthma in a Federally Qualified Health Center. *Journal of Community Health*, 44(5):948-953.
- Fox, R. S., Moreno, P. I., Yanez, B., **Estabrook, R.**, Thomas, J., McGinty, H. L., Mohr, D. C., Begale, M. J., Flury, S. C., Perry, K., Kundu, S. D., & Penedo, F. J. (2019). Integrating PROMIS CATs into a web-based psychosocial intervention for advanced prostate cancer. *Health Psychology*, 38 (5), 403-409.
- Roberts, M., Stern, Y., Hampton, L., Grauzer, J., Miller, A., Levin, A., Kornfeld, B., Davis, M., Kaat, A., & **Estabrook, R.** (2019). Beyond pass-fail: Examining the potential utility of two thresholds in the autism screening process. *Autism Research*, 12(1), 112-122.
- Kaat, A. J., Blackwell, C. J., **Estabrook, R.**, Burns, J. L., Petitclerc, A., Briggs-Gowan, M. J., Gershon, R. C., Cella, D., Pearlman, S. B. & Wakschlag, L. S. (2019). Linking the Child Behavior Checklist with the Multidimensional Assessment Profile of Disruptive Behavior: Advancing a dimensional spectrum approach to disruptive behavior. *Journal of Child and Family Studies*, 2, 343–353.
- Curtis, P.R.*, Kaiser, A.P., **Estabrook, R.**, & Roberts, M.Y. (2019). The Longitudinal Effects of Early Language Intervention on Children's Problem Behaviors. *Child Development*, 90 (2), 576-592.
- Dirks, M., Recchia, H. **Estabrook, R.**,; Howe, N., Petitclerc, A, Burns, J. L., Briggs-Gowan, M., & Wakschlag, L. S. (2019). Differentiating Typical from Atypical Perpetration of Sibling-Directed Aggression during the Preschool Years. *Journal of Child Psychology and Psychiatry*, 60(3), 267-276.



- Moreno, P. I., Ramirez, A. G., San Miguel-Majors, S. L., Castillo, L., Fox, R. S., Gallion, K. J., Munoz, E., **Estabrook, R.**, Perea, A., Lad, T., Hollowell, C., & Penedo, F. J. (2019). Unmet supportive care needs in Hispanic/Latino cancer survivors: Prevalence and associations with patient-provider communication, satisfaction with cancer care, and symptom burden. *Supportive Care in Cancer*, 27(4), 1383-1394.
- Briggs-Gowan, M. J., **Estabrook, R.**, Grasso, D., Henry, D., Burns, J. L., McCarthy, K. J., Pollak, S., & Wakschlag, L. S. (2019). Parsing Dimensions of Family Violence Exposure in Early Childhood: Shared and Specific Contributions to Emergent Psychopathology and Impairment. *Child Abuse and Neglect*, 87, 100-111.
- Estabrook, R.**, Cella, D., Zhao, F., Manola, J., DiPaola, R. S., Wagner, L. I., & Haas, N. (2018). Longitudinal and Dynamic Measurement Invariance of the FACIT-Fatigue Scale: an application of the Measurement Model of Derivatives to ECOG-ACRIN study E2805. *Quality of Life Research*, 27(6), 1589-1597.
- Roberts, M. Y., Curtis, P.R., **Estabrook, R.**, Norton, E. S., Davis, M., Burns, J. L., Briggs-Gowan, M., Petitelerc, A., & Wakschlag, L. S. (2018). Talking Tots and the Terrible Twos: Early Language and Disruptive Behavior in Toddlers. *Journal of Developmental & Behavioral Pediatrics*. 39(9), 709-714.
- Wiggins, J. L., Briggs-Gowan, M. J., **Estabrook, R.**, Brotman, M. A., Pine, D. S., Leibenluft, E., & Wakschlag, L. S. (2018). Identifying clinically significant irritability in early childhood. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57 (3), 191-199.
- Newcomb, M. E., Swann, G., **Estabrook, R.**, Corden, M., Begale, M., Ashbeck, A., Mohr, D., & Mustanski, B. (2018). Patterns and Predictors of Compliance in a Prospective Diary Study of Substance Use and Sexual Behavior in a Sample of Young Men Who Have Sex With Men. *Assessment*, 25(4), 403-414.
- Wu, H. & **Estabrook, R.** (2016). Identification of Confirmatory Factor Analysis Models of Different Levels of Invariance for Ordered Categorical Outcomes. *Psychometrika*, 81 (4), 1014-1045.
- Estabrook, R.**, Massey, S. H., Clark, C. A. C., Burns, J. L., Mustanski, B., Cook, E. H., O'Brien, T. C., Espy, K. A., & Wakschlag, L. S. (2016). Separating family-level and direct exposure effects of smoking during pregnancy on offspring externalizing symptoms: Bridging the behavior genetic and behavior teratologic divide. *Behavior Genetics*, 46 (3), 389-402.
- Neale, M. C., Hunter, M. D., Pritikin, J. N., Zahery, M., Brick, T. R., Kirkpatrick, R. M., **Estabrook, R.**, Bates, T. C., Maes, H. H. & Boker, S. M. (2016). OpenMx 2.0: Extended Structural Equation and Statistical Modeling. *Psychometrika*, 81 (2), 535-49.
- Boker, S. M., Brick, T., Pritikin, J., Wang, Y., Von Oertzen, T., Brown, D., Lach, J. **Estabrook, R.**, Hunter, M. D., Maes, H. & Neale, M. C., (2015). Maintained Individual Data Distributed Likelihood Estimation. *Multivariate Behavioral Research*, 50 (6), 706-20.
- Estabrook, R.**, Sadler, M., & McGue, M. (2015). Differential Item Functioning in the CAMDEX Depression Scale Across Middle Age and Late-Life. *Psychological Assessment*, 27 (4), 1219-1233.
- Wakschlag, L. S.<sup>1</sup>, **Estabrook, R.**<sup>1</sup>, Henry, D., Burns, J. L., Perlman, S. B., Pine, D. S., Leigenluft, E., & Briggs-Gowan, M. (2015). Clinical application of a dimensional approach: The normal:abnormal

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<sup>1</sup>Authors contributed equally.

- spectrum of early irritability. *JAACP (Journal of the American Association of Child & Adolescent Psychiatry)*, 54 (8), 626-34.
- Petitclerc, A., Briggs-Gowan, M. **Estabrook, R.**, Burns, J. L., Anderson, E., McCarthy, K., & Wakschlag, L. S. (2015). Contextual Variation in Young Children's Observed Disruptive Behavior on the DB-DOS: Implications for Early Identification. *Journal of Child Psychology and Psychiatry*, 56 (9), 1008-16
- Nichols, S., Briggs-Gowan, M., Henry, D., **Estabrook, R.**, Burns, J. L., Kestler, J., Berman, G. & Wakschlag, L. S. (2015). Punishment insensitivity in early childhood: A developmental, dimensional approach. *Journal of Abnormal Child Psychology*, 43 (6), 1011-23.
- Estabrook, R.** (2015). Evaluating Measurement of Dynamic Constructs: Defining a Measurement Model of Derivatives. *Psychological Methods*. 20 (1), 117-141.
- Massey, S. H., **Estabrook, R.**, O'Brien, T. C., Pine, D. S., Burns, J. S., Jacob, S., Cook, E. H., & Wakschlag, L. S. (2015). Preliminary Evidence for the Interaction of the Oxytocin Receptor Gene (OXTR) and Face Processing in Differentiating Prenatal Smoking Patterns. *Neuroscience Letters*. 584, 259-264.
- Kubarych, T. S., Kendler, K. S., Aggen, S. H., **Estabrook, R.**, Edwards, A., Clark, S. L., Martin, N. G., Hickie, I. B., Neale, M. C. & Gillespie, N. A. (2014). Comparing Factor, Class, and Mixture Models of Cannabis Initiation and DSM Cannabis Use Disorder Criteria, Including Craving, in the Brisbane Longitudinal Twin Study. *Twin Research and Human Genetics*. 17(2), 89-98.
- Estabrook, R.** & Neale, M. C. (2013). A Comparison of Factor Score Estimation Methods in the Presence of Missing Data. *Multivariate Behavioral Research*. 48 (1), 1-27.
- Estabrook, R.**, Grimm, K. J. & Bowles, R. P. (2012). A Monte Carlo Simulation Study Assessment of the Reliability of Within-Person Variability. *Psychology and Aging*. 27 (3), 560-576.
- Verhulst, B., & **Estabrook, R.** (2012). Using Genetic Information to Test Causal relationships in Cross-Sectional Data. *Journal of Theoretical Politics*. 24 (3), 328-344.
- Boker, S., Neale, M., Maes, H., Wilde, M., Spiegel, M., Brick, T., Spies, J., **Estabrook, R.**, Kenny, S., Bates, T., Mehta, P., & Fox, J. (2011). OpenMx: An Open Source Extended Structural Equation Modeling Framework. *Psychometrika*, 76 (2), 306-317.
- Grimm, K. J., Ram, N., & **Estabrook, R.** (2010). Nonlinear Structured Growth Mixture Models in Mplus and OpenMx. *Multivariate Behavioral Research*, 45 (6), 887-909.
- Gerstorf, D., Ram, N., **Estabrook, R.**, Schupp, J., Wagner, G.G. & Lindenberger, U. (2008). Life Satisfaction Shows Terminal Decline in Old Age: Longitudinal Evidence from the German Socio-Economic Panel Study (SOEP). *Developmental Psychology*, 44, 4, 1148-1159.

### Books

- Grimm, K. G., Ram, N. & **Estabrook, R.** (2016). Latent Growth Modeling with Structural Equation and Multilevel Modeling Software. Guilford Press.

### Book Chapters

- Estabrook, R.** (2018). From Factors of Curves to Factors of Change. In Ferrer, E., Boker, S.M., & Grimm, K.J. *Longitudinal Multivariate Psychology* New York: Taylor & Francis.
- Estabrook, R.** (2012). Factorial Invariance: Tools and Concepts for Strengthening Research. In Tenenbaum, G., Eklund, R., & Kamata, A. (Eds.) *Measurement in Sport and Exercise Psychology*. Champaign, IL: Human Kinetics.
- Wang, L., Zhang, Z. & **Estabrook, R.** (2010). Longitudinal mediation analysis of training intervention effects. In S.-M. Chow, E. Ferrer, & F. Hsieh (Eds), *Statistical methods for modeling human dynamics: An interdisciplinary dialogue*. New Jersey: Lawrence Erlbaum Associates.
- Nesselroade, J. R., & **Estabrook, R.** (2009). Factor invariance, measurement, and studying development over the lifespan. In H. Bosworth & C. Hertzog (Eds.), *Aging and Cognition: Research Methodologies and Empirical Advances* (pp. 39–52). Washington, D.C.: American Psychological Association.

### Case Reports, Letters, Editorials

- Reimann, M., Schilke, O., **Estabrook, R.**, & Cook, K. S. (2018). Reply to Goldfarb et al.: On the heritability and socialization of trust and distrust. *Proceedings of the National Academy of Sciences*, 115(10), E2151-E2152.

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- Boker, S., Neale, M., Maes, H., Wilde, M., Spiegel, M., Brick, T., Spies, J., **Estabrook, R.**, Kenny, S., Bates, T., Mehta, P., Fox, J. (2012). *OpenMx: Multipurpose Software for Statistical Modeling* (Versions 1.0-1.4.3), University of Virginia, Department of Psychology, Box 400400, Charlottesville, VA 22904. <http://openmx.psyc.virginia.edu/>

### Reprints & Translations

- Nesselroade, J. R., & **Estabrook, R.** (2010). Facteur d'invariance, mesure et étude développementale au cours du lifespan (D. Fagot & P. Golay, Trans). In A. de Ribaupierre, P. Ghisletta, T. Lecerf & J. L. Roulin (Eds.), *Identité et spécificités de la psychologie différentielle* (pp. 31–47). Rennes, France: Presses Universitaires Pur Rennes. (Reprinted from *Aging and Cognition: Research Methodologies and Empirical Advances* (pp. 39–52), by H. Bosworth & C. Hertzog, (Eds.), 2008, Washington, D.C.: American Psychological Association).

### Published Abstracts

- Bastarache, E. D., Kranz-Graham, E, **Estabrook, R.**, Ong, A., Piccinin, A., Hofer, S., Spiro, A., & Mroczek, D. K. (2019). Trajectories of Positive and Negative Affect: A Coordinated Analysis of 11 Longitudinal Samples. *Innovation in Aging*, 3. 696-696.
- Deveney, C., Pagliaccio, D., **Estabrook, R.**, Burns, J. L., Voss, J., Brotman, M., Briggs-Gowan, M., & Wakschlag, L. S. (2017). Temporally Sensitive Neural Measures of Inhibition in Preschool Children with Varying Irritability Symptoms. *Biological Psychiatry*, 81 (10), S17.
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- Estabrook, R.**, Salthouse, T. A., & Nesselroade, J. R. (2009). Higher Order Invariance and Age Comparisons in Depression, Neuroticism, and Anxiety [Abstract]. *Multivariate Behavioral Research*, 44 (6), 850.

### Chaired Conference Symposia

- Estabrook, R.** (2016, September). *Moving from Panel Designs into Developmentally-Sensitive Dynamic Modeling*. Developmental Methodology, Whitefish, MT.
- Estabrook, R.** (2016, May). *Approaching Complex Research Designs From the Perspective of Missing Data*. Association for Psychological Science, Chicago, IL.
- Estabrook, R.** (2013, May). *Re-imagining Complex Models as Extended Structural Equation Models in OpenMx*. Association for Psychological Science, Washington, DC.

### Conference & Colloquia Presentations

- Estabrook, R.** (2018, Sept). *Dynamic Measurement Invariance using Dynamical Systems Approaches: The Measurement Model of Derivatives*. Presented at Developmental Methods, Whitefish, MT.
- Fox, R. S., Moreno, P. I., Yanez, B., **Estabrook, R.**, Thomas, J., McGinty, H. L., Mohr, D. C., Begale, M. J., Dahn, J., Flury, S. C., Perry, K., Kundu, S. D., & Penedo, F. J. (submitted). *Effects of a technology-assisted CBT-based intervention on the psychosocial functioning of men with advanced prostate cancer*. Submitted to the Society of Behavioral Medicine (SBM), New Orleans, LA.
- Moreno, P. I., Ramirez, A. G., San Miguel-Majors, S. L., Fox, R. S., Castillo, L., Gallion, K. J., Munoz, E., **Estabrook, R.**, Perez, A., Lad, T., Hollowell, C., & Penedo, F. J. (submitted). *Unmet Supportive Care Needs in Latino Cancer Survivors: Prevalence, Severity, and Associations with Symptom Burden and Satisfaction with Cancer Care*. Submitted to the Society of Behavioral Medicine (SBM), New Orleans, LA.

- Deveney, C., Pagliaccio, D., **Estabrook, R.**, Burns, J. L., Voss, J., Brotman, M., Briggs-Gowan, M., & Wakschlag, L. S. (2017, May). *Temporally Sensitive Neural Measures of Inhibition in Preschool Children with Varying Irritability Symptoms*. Society of Biological Psychiatry, San Diego, CA.
- Moreno, P. I., Ramirez, A. G., San Miguel, S., Fox, R. S., Castillo, L., Gallion, K. J., Munoz, E., **Estabrook, R.**, & Penedo, F. J. (accepted). Positive patient experience in cancer care, self-efficacy, and health-related quality of life in Latino cancer survivors. Poster presentation submitted to the American Psychosomatic Society Annual Meeting, Seville, Spain.
- Estabrook, R.** (2016, September). *Comparing and Combining Panel Designs and Dynamical Systems Models*. Developmental Methodology, Whitefish, MT.
- Estabrook, R.** (2016, May). *Multivariate Extreme Group Sampling: Thinking Outside the Box*. Association for Psychological Science, Chicago, IL.
- Mroczek, D. K., Kranz-Graham, E., **Estabrook, R.**, Schalet, B. D., Turiano, N. A., Spiro, A., Piccinin, A., & Hofer, S. M. (2014, November). Multi-Study Analysis of Health Behaviors as Mediators of the Personality-Mortality Association. Presentation at the Gerontological Society of America Meeting in Washington, D.C.
- Mroczek, D. K., **Estabrook, R.**, Schalet, B. D., Kranz-Graham, E., Turiano, N. A. & Spiro, A. (2014, November). Do Personality and Health Influence Each Other Over Time? Dynamic Associations Between Traits and Physical Health Over a 4-Decade Longitudinal Followup. Presentation at the Gerontological Society of America Meeting in Washington, D.C.
- Estabrook, R.** (2014, September). Merging Multilevel and Structural Equation Models to Estimate Random Change Points in Multi-Phasic Growth Models. Presentation at the Society for Research in Child Development Special Topic Meeting: Developmental Methodology in San Diego, CA.
- Mroczek, D. K., **Estabrook, R.**, Schalet, B. D., Kranz-Graham, E., & Spiro, A. (2014, July). *The dynamic association between personality and health over 40 years*. Presentation at the European Congress of Psychology Meeting in London, EN.
- Estabrook, R.**, O'Brien, T. C., Espy, K. A. & Wakschlag, L. S. (2014, June). *The Importance of Reliable Longitudinal Measurement in the Assessment of Prenatal Smoking and its Relation to Youth Externalizing Disorder*. Presentation at the Behavior Genetics Association Meeting in Charlottesville, Va.
- Estabrook, R.** (2014, May). *Extending A Constrained-Mixture Model for the Analysis of Multi-Phasic Growth with Random Transition Points*. Presentation at the Association for Psychological Science, San Francisco, CA.
- Estabrook, R.**, Mroczek, D. K., Schalet, B. D., Kranz-Graham, E., & Spiro, A. (2014, May). *Dynamic Relationship Between Personality and Health in the VA Normative Aging Study* Poster presentation at the Association for Psychological Science, San Francisco, CA.
- Staples, A. D., Dodson, G., Boker, S. M. & **Estabrook, R.** (2013, November). *Age Differences in Emotion Experience and Expression during Conversation*. Poster presented at the Gerontological Society of America Meeting in New Orleans, LA.
- Neale, M. C. & **Estabrook, R.** (2013, October). *Weighted Least Squares with Missing Data*. Presentation at the Society for Multivariate Experimental Psychology Meeting in St. Petersburg, FL.

- Estabrook, R.** & Neale, M. C. (2013, June). *Genetic Factor Scoring from Common and Independent Pathway Models*. Presentation at the Behavior Genetics Association Meeting in Marseille, FR.
- Neale, M. C., **Estabrook, R.**, Gillespie, N., Hahn, E. & Aggen, S. (2013, June). *New Developments in OpenMx: Applications to Substance Use and Abuse*. Presentation at the Behavior Genetics Association Meeting in Marseille, FR.
- Estabrook, R.** (2013, May). *Specifying Growth Curves with Random Transitions as Constrained Mixture Models*. Presentation at the Association for Psychological Science, Washington, DC.
- Estabrook, R.** (2012, December). *Genetic Factor Scores: Pulling Numbers Out of Your ACE*. Presentation at the NIDA Genetics Consortium Meeting.
- Estabrook, R.** (2012, February). *Testing the Number of Factors with Longitudinal Data*. Presentation at the Society for Research in Child Development (SRCD) Meeting in Tampa, FL.
- Estabrook, R.** & Neale, M. C. (2011, June). *Reliability of Factor Scores and Related Methods with Missing Data & the Impact of Genetically-Informative Designs*. Presentation at the Behavior Genetics Association Meeting in Newport, RI.
- Estabrook, R.** (2010, May). *Using Dynamics to Evaluate Measurement in Affective Data*. Presentation at the Association for Psychological Science Meeting in Boston, MA.
- Estabrook, R.** (2009, October). *Higher-Order Invariance Using Idiographic Filtering*. Presentation at the Society for Multivariate Experimental Psychology in Gleneden Beach, OR.
- Boker, S. M., Neale, M. C., Maes, H., Mehta, P. D., Wilde, M. J., Brick, T. R., Spies, J. R., Spiegel, M., **Estabrook, R.**, Hunter, M. D., Kenny, S., Fox, J., & Bates, T. (2009, October). *OpenMx: An Open Source and Extensible SEM Framework*. Presentation at the Society for Multivariate Experimental Psychology in Gleneden Beach, OR.
- Boker, S. M., Neale, M. C., Maes, H., Wilde, M. J., Spiegel, M., Brick, T. R., Spies, J. R., **Estabrook, R.**, Kenny, S., Bates, T., Mehta, P. D., Fox, J. (2009, October) *OpenMx: Multipurpose Software for Statistical Modeling*. Facilitating Interdisciplinary Research: Methodological and Technological Innovation in the Behavioral and Social Sciences Meeting; Bethesda, Maryland; October 8, 2009.
- Estabrook, R.** (2009, April). *Terminal Change in Cognition and Its Relationship With Blood Pressure: Evidence From the Maine–Syracuse Longitudinal Study*. Presentation at the Robert J. Huskey Graduate Research Exhibition in Charlottesville, VA.
- Estabrook, R.** (2008, April). *Reliability and Intraindividual Variability*. Presentation at the Robert J. Huskey Graduate Research Exhibition in Charlottesville, VA.
- Gerstorff, D., Ram, N., **Estabrook, R.**, Schupp, J., Wagner, G.G. & Lindenberger, U. (2008, April). *Life Satisfaction Shows Terminal Decline in Old Age: Longitudinal Evidence from the German Socio-Economic Panel Study (SOEP)*. Poster presented at Cognitive Aging Conference in Atlanta, GA.
- Estabrook, R.**, Grimm, K.J. & Bowles, R.P. (2006, November). *Reliability of Individual Standard Deviations*. Presentation at the Gerontological Society of America Conference in Dallas, TX.